Digital Switching

Two platforms, one system: MasterBus / CZone™

24 V
24 V / 70
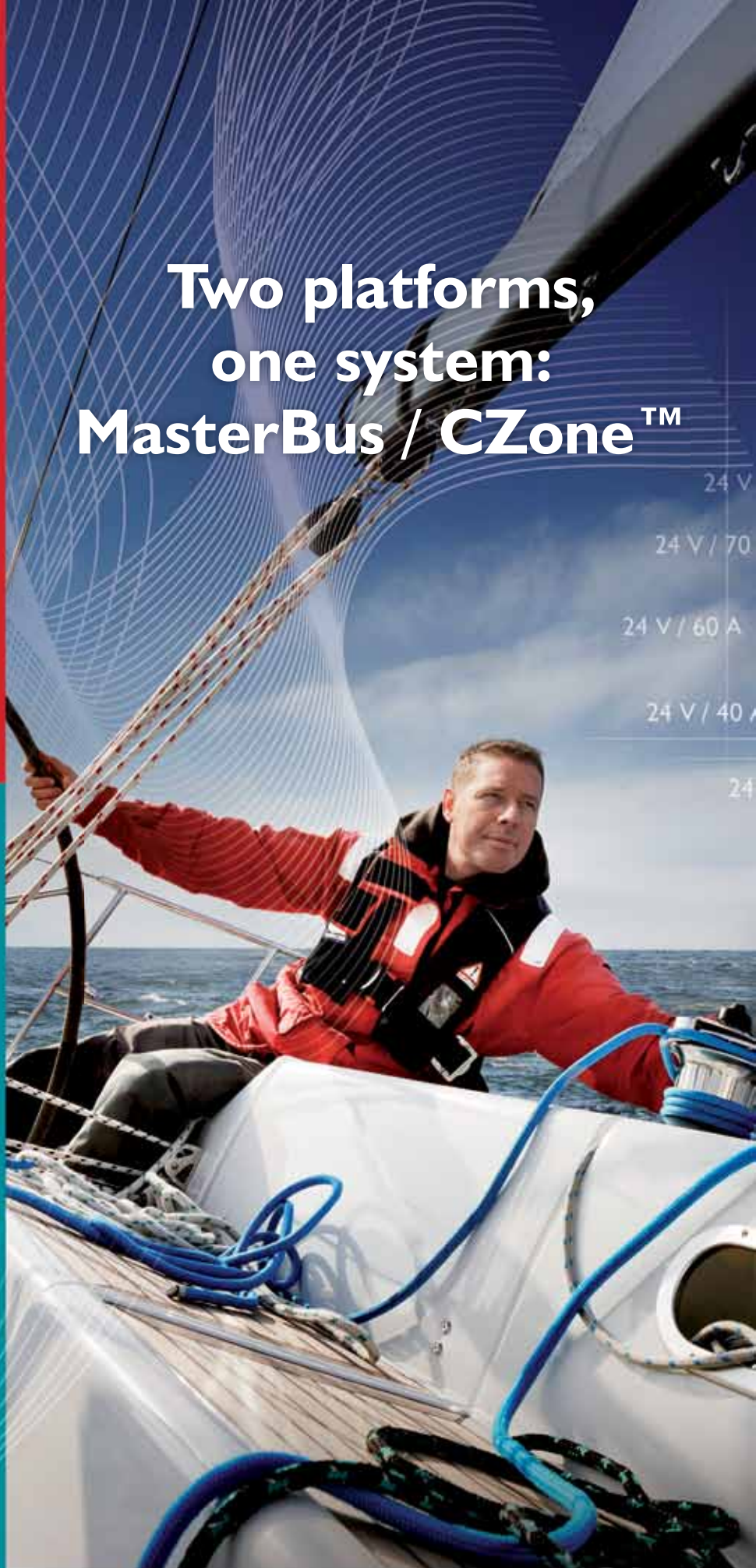24 V / 60 A
24 V / 40 A
24

Intelligent single cable system

Modular and flexible

Easy to install and configure

Central, local and remotely accessible

Power and load management in a single bus

MASTERVOLT
THE POWER TO BE INDEPENDENT

Digital switching,
the future is now

By de-centralizing your installation, it is possible to create smarter systems with less cables and installation work. Central switchboards are replaced by de-centralized power outputs, which are controlled via a bus system. These outputs power equipment like lights, pumps and navigation equipment. Different input modules can be connected to this bus as well. These input modules – from switches to touch screen panels – control the output modules. This way you can control your yacht from anywhere, even from your mobile phone via text messages.

With digital switching systems you have greater flexibility and more intelligence to be integrated. Without additional components like relays, timer modules and extensive cable trees, it is possible to design a smart system. Digital switching systems result in systems that are easy to operate.

Two platforms available:
MasterBus and **CZone™**

MasterBus is based on a proprietary CANbus based network, used by most Mastervolt products. This platform is perfectly suited for integration of digital switching with power electronics from Mastervolt.

The CZone™ digital control and monitoring system is an open platform and based on NMEA2000 platform. It will work both as a standalone system, or in conjunction with NMEA2000 compatible components. This allows a fully integrated system including the latest Simrad and B&G multifunction marine displays (chartplotters, fishfinder, radar, autopilot). Carrying a high Ingress protection level (IPX5 and higher), CZone™ components are ideal for harsh environment installations.

On the following pages you will find a more **detailed description** of both digital switching platforms, and components.

The perfect **link**:

CZone MasterBus Bridge Interface

The CZone MasterBus Bridge Interface physically connects the MasterBus and CZone™ networks, allowing you to pick and choose the best products for your application. The two networks will communicate and act as one, providing seamless control and monitoring of devices on both networks, from either MasterBus or CZone™ displays.

The MasterBus and CZone™ network bring features and automated functionality normally reserved for superyachts to the everyday boat user. CZone™ and MasterBus networks provide intelligent automation of complex onboard systems leaving the boat user free to enjoy their boating experience.

Customizeable modes of operation allow the boat to be configured to suit the use of the boat, at the push of a single button the boats systems can be transformed from 'Dock Mode' to 'Cruise Mode' preparing the boat for a day at sea.

Thanks to galvanic isolation, nearly all devices can supply power to the MasterBus, ensuring a safe and stable network. The wide range of interfaces and modules allows you to connect any equipment you wish to your MasterBus network and manage, monitor or operate it locally, centrally or even from your home address.

"The popular MasterShunt digital shunt and ChargeMaster battery charger will now connect to a NMEA2000 based CZone™ network. This allows monitoring and control of the batteries and battery charger from a CZone™ display or other compatible marine navigation screens from Simrad and B&G."
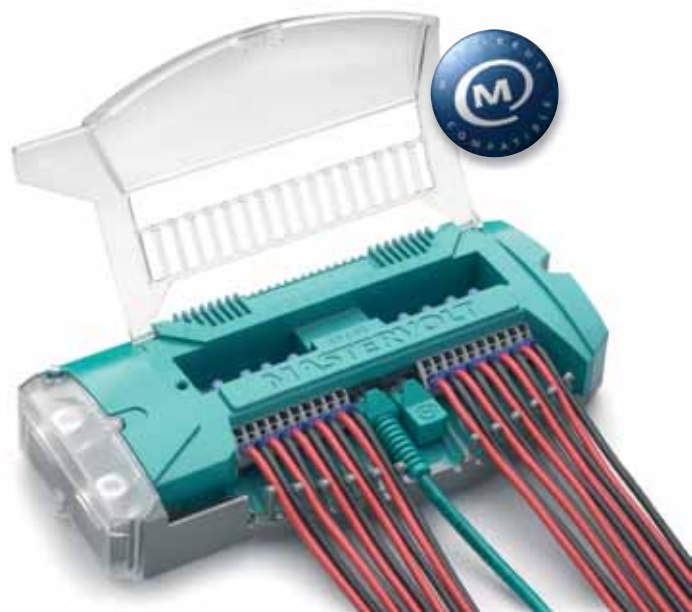
Professional perspective

The MasterBus and CZone™ network makes life easier for designers, builders and installers of power systems with less material, less work, less fuss and an easy testing method. Moreover, the MasterBus network is available in ten languages.

Both systems provide a range of displays for controlling and monitoring on board systems such as inverters, chargers, circuits, power and tank levels. The range of displays offer a consistent, intuitive user interface.
Digital switching makes your life easier.

More information?

Contact your nearest dealer or see **www.mastervolt.com** or **www.bepmarine.com**.

The intelligent logic of
digital distribution

As owners demand ever higher levels of onboard luxury and comfort, yachts need to carry more equipment which in turn takes up more space. This makes it all the more essential to intelligently install equipment in the available space - and that is where digital distribution by Mastervolt comes in. Mastervolt's latest innovation requires fewer cables, takes up less space and increases luxury.

Digital DC 10x10A

As the pinnacle of system intelligence, the Digital DC 10x10A has ten output channels of 10 A for all functions including lighting, pumps or electronics. The system also includes several intelligent alarm functions and luxury options such as 'follow me home' (light stays on for a specific time after you leave the yacht), and the standard option of requesting your battery status by text message. Other examples of standard options include (delayed) dimming of lights or overload warning signals.

By using less material and thinner cables, Mastervolt's digital distribution saves considerable time and costs for installation. And because system integration and system management are built-in as standard, you are assured of an optimal balance between energy generation, storage and consumption. If required the generator will start automatically when you turn on the air conditioning. Dimming the lights is no longer a complex operation as the Digital DC 10x10A makes dimmers obsolete!

Product code	77020400
MasterBus powering	yes
Power consumption	<2 mA at 12 / 24 V
Protection degree	IP21
Dimensions, hxwxd	40x229x110 mm / 1.56x9x4.34 inch
Weight	750 gr / 1.7 lbs
DC OUTPUT	
Connection	cable max. 4 mm²
Max. software fuse current	10 A per channel
Hardware fuse current	15 A per channel
DC INPUT	
Connections	max. 95 mm² or directly connected to MasterShunt or DC Distribution
Maximum current	100 A
Supply voltage	8-30 V DC

MasterView control panels:
Everything under control

Fast and clear information about your onboard electrical system
is vital to relaxed boating. Usually a number of multiple panels are
required to read the details of an expansive electrical system, and the
interpretation of these panels and how they relate to one another is
left to the user. Mastervolt puts an end to this undesirable situation
with its intelligent MasterView panels.

Multifunctional control panel: MasterView Easy
This multifunctional touchscreen display can monitor every
MasterBus and CZone™ product. Connected via the MasterShunt,
the display functions as a battery monitor and is connected to the
generator as a generator panel. The favourites screen can be custom
designed to meet your specific needs for information and control.

The smartest solution: MasterView System
Say goodbye to cluttered, unclear and excessive information with
Mastervolt's intelligent MasterView System, based on in-house
developed software combined with a user-friendly 10.4-inch colour
touchscreen. The simple yet brilliant set-up of the MasterView
System intelligently connects all the power sources and loads
(generator, charger, bilge pump, engine, lighting, air conditioning,
etc.) via the MasterBus. It provides all the information you need on
your electric system in one clear overview on an organised, intuitively
operated panel - the MasterView System.

Specifications **MasterView** panels

Remote panel for reading the charge status of your charger, including error notifications.

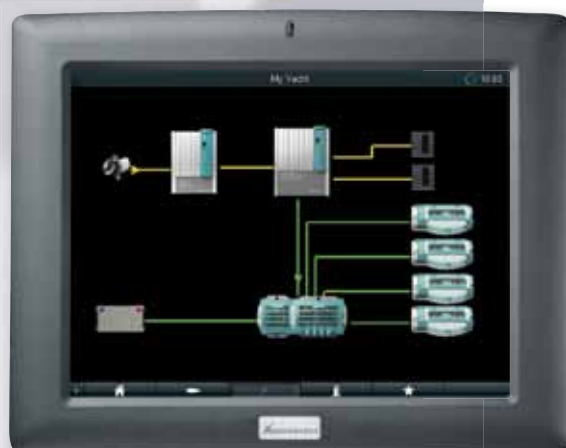| MasterView Read-out	
Product code	77010050
Display	7 LEDs
Dimensions, hxw	60x65 mm / 2.4x2x6 inch
MasterBus connection	yes
Powered by	MasterBus
Power consumption	144 mW
Protection degree	IP21
Weight	70 gr / 0.15 lbs

MasterView Read-out OEM (product code: 77010030)
If your dashboard is full and does not offer space for a MasterView panel, this module allows you to integrate the MasterBus Read-out into your own control panel.

MasterView Easy	
Product code	77010305
Display	3.5 inch touch screen
Dimensions, hxw	110x110 mm / 4.3x4.3 inch
MasterBus connection	yes
Powered by	MasterBus
Power consumption	160 mW
Protection degree	IP21
Weight	230 gr / 0.51 lbs
Languages	ENG, NL, DE, SP, IT, FRA, FIN, SWE, DEN, NOR

MasterView System	
Product code	77010400
Display	10.4 inch colour touch screen
Dimensions, hxw	222x276 mm / 8.7x10.8 inch
MasterBus connection	by means of System Panel Controller (delivered as standard)
Power	by means of System Panel Controller (delivered as standard)
Power consumption	28 W
Protection degree	IP64 (front)
Weight	1.4 kg / 3.1 lbs
Languages	ENG, NL, DE, SP, IT, FRA, FIN, SWE, DEN, NOR

System Panel Controller (product code: 77031900)
Connect the MasterView System or your PC with the MasterBus network. Provides the power and software license key for the MasterView System panel. Deliverd as a standard with MasterView System (also separately available).

MasterView System:
Interactive touchscreen

The MasterView System full colour graphical display provides
a single point for controlling monitoring and configuring
onboard electrical systems. A customisable, easy to read display
simplifies operation for the boat user while providing the
installer with the ability to configure the system without the
use of a PC.

Home screen
The home screen provides a status overview of power sources
like shore connections, inverters, generators and batteries.
A basic form of control is possible, for example turning on and
off your inverter.

Digital switching screen
This screen shows the layout of your yacht, lights and selected
pumps. You manage the loads by clicking the icons. The
background image can be uploaded for full customisation.
Alarm notifications are shown via eye-catching pop-ups.
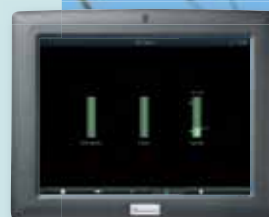
System overview
This screen gives a dynamic graphical overview of your electric
system, answering any questions you have in an instant.
Incorrect line voltages are shown in red, inactive circuits in
grey: It couldn't be easier.

Tank level screen
Stop guessing and know immediately the contents of up to
20 tanks. You can also install your own warning signals for full
or (nearly) empty tanks. All you need to do is connect the
MasterBus Tank Level Interface to the network.

Favourites screen
The favourites screen can be custom designed to meet your
specific needs for information and control. Any information
that is available on the MasterBus network is displayed clearly
and logically. Information can be displayed in various ways on
multiple pages, for example, one overview page, one or two
breaker pages, an engine information page and a NMEA2000
information page.

For more information see www.mastervolt.com/masterview

Operate & control your

Mastervolt offers a wide range of interfaces to connect other systems to your MasterBus network.
These interfaces ensure a safe and reliable energy system and complete cooperation between all MasterBus products.
All interfaces can be installed in various ways, from DIN rails to surface mounting.

Product code: 7703100.

MasterBus USB Interface

The MasterBus USB Interface enables you to read and configure the MasterBus network via your PC.

Product code: 77030800.

MasterBus Modbus Interface

The MasterBus Modbus interface can provide all information from the 'closed' MasterBus network for other monitoring and operating systems by means of the Modbus protocol.

Product code: 77030700.

MasterBus Inverter Interface

The MasterBus Inverter Interface integrates the Mass Sine inverter in a MasterBus network and allows it to be operated and monitored via MasterView or PC.

Product code: 77030475.

MasterBus Combi Interface

This interface integrates a Mastervolt Mass Combi in a MasterBus network and allows it to be operated or monitored via a MasterView panel or PC.

Product code: 77031100.

MasterBus Repeater

Double the maximum length of your MasterBus network.

Product code: 77030450.

MasterBus Serial Interface

The MasterBus Serial Interface connects conventional Mastervolt products to the MasterBus. Data becomes permanently available to allow configuration, operation and monitoring via MasterView panels.

Product code: 77031000.

GPRS Module

Communicate with your system via mobile phone, monitoring current information or operating the system by remote control via a text message or easy shortcuts.

Product code: 77031300.

Switch Input 3 PCB

Switch Input 3 makes Carling switches suitable for MasterBus and helps you by easily linking various functions to the switch.

Product code: 77031400.

Switch Input 4 PCB

Switch Input 4 has LED indication for extra information. For example: The LED will blink when a connected lamp fails.

For more information see
www.mastervolt.com/masterbus-interfaces

MasterBus network

Product code: 77031800.

MasterBus NMEA2000 Interface
The MasterBus NMEA2000 Interface provides the MasterBus network with NMEA2000 information, and vice versa.

Product code: 77030900.

Digital Input
Mastervolt's Digital Input connects up to four switches to the MasterBus network. Standard delivered with connection cables.

Product code: 77031500.

Digital AC 1x6A
Digital AC 1x6A switches all AC loads, no matter where they are. Loads up to 6 A can be directly switched, higher loads should be switched via a relay.

Product code: 77030500.

Multipurpose Contact Output
Mastervolt's potential-free contact can be customised and programmed to give your MasterBus network unprecedented possibilities. Use it, for example, to control a ventilator or operate a generator from a different brand.

Product code: 77030300.

MasterBus Tank Level Interface
This interface converts analogue sensor input signals to MasterBus data. Selectable input signals: 4-20 mA, 0-300 Ω, 8-70 V DC.

Product code: 80-911-0072-00.

CZone MasterBus Bridge Interface
The CZone MasterBus Bridge Interface physically connects the MasterBus and CZone™ networks, allowing you to pick and choose the best products for your application. The two networks will communicate and act as one, providing seamless control and monitoring of devices on both networks, from either MasterBus or CZone™ displays. Functions:
- Control of Mastervolt inverters and chargers from CZone™ displays and switches.
- Control of MasterBus output devices (turn lights, pumps, etc. on/off).
- Control of CZone™ output devices (turn lights, pumps, etc. on/off) via MasterBus displays and switches.
- Display CZone™ acquired systems information such as tank and power levels on MasterBus displays.
- Display MasterBus acquired systems information such as tank and power levels on CZone™ displays.
- Transfers alarms between both systems.

Product code: 77031200.

AC Power Analyser
The MasterBus AC Power Analyser is a multifunctional measuring tool that provides the MasterBus with insight into AC voltage and power, frequency, Cos Phi and system capacity. The device also functions as an 'inverter control' and has a programmable potential-free contact.

Product code: 77031900.

System Panel Controller
Connect the MasterView System or your PC with the MasterBus network. Provides the power and software license key for the MasterView System panel.

Specifications **MasterBus Interfaces**

Product code	MasterBus powering	Dimensions, hxwxd	Weight	Protection degree	Delivered with
77030100	yes (when the is switched on)	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	USB connection cable, MasterBus cable, MasterBus Terminator, user's manual
77030800	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	MasterBus cable, MasterBus Terminator, user's manual
77030700	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	Interface connection cable, MasterBus cable, MasterBus Terminator, user's manual
77030475	yes	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	Interface connection cable, MasterBus Terminator, user's manual
77031100	yes	66x78x32 mm 2.6"x3.1"x1.3"	± 90 gr 0.20 lbs	IP21	MasterBus cable, MasterBus Terminator, user's manual
77030450	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	Interface connection cable, MasterBus cable, MasterBus Terminator, user's manual
77031000	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	GPRS antenna, MasterBus cable, MasterBus Terminator, user's manual; SIM card not included
77031300	no	54x86x58 mm 2"x3.4"x2.3" (incl. mounting frame)	35 gr 0.08 lbs (incl. MasterBus Terminator)	IP21	MasterBus Terminator, user's manual; switches and mounting frame not included
77031400	no	56x120x65 mm 2.2"x4.7"x2.6" (incl. mounting frame)	45 gr 0.1 lbs (incl. MasterBus Terminator)	IP21	MasterBus Terminator, user's manual; switches and mounting frame not included
77031800	no	66x78x32 mm 2.6"x3.1"x1.3"	± 100 gr 0.22 lbs	IP21	NMEA connection cable, MasterBus cable, MasterBus Terminator, user's manual
77030900	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	cable with plug, MasterBus cable, MasterBus Terminator, user's manual
77031500	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	MasterBus cable, MasterBus Terminator, user's manual
77030500	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	MasterBus cable, MasterBus Terminator, user's manual
77030300	no	66x78x32 mm 2.6"x3.1"x1.3"	± 80 gr 0.18 lbs	IP21	MasterBus cable, MasterBus Terminator, user's manual
80-911-0072-00	no	69x69x50 mm 2.7"x2.7"x2"	145 gr 0.32 lbs	IP65	MasterBus cable adapter, MasterBus Terminator, user's manual
77031200	no	80x181x28 mm 3.1"x7.1"x1.1"	± 530 gr 1.17 lbs	IP65	MasterBus cable, MasterBus Terminator, current transformer 100:5, user's manual
77031900	yes (when the PC is switched on)	91x185x33 mm 3.6"x7.3"x1.3"	± 750 gr 1.65 lbs	IP65	USB cable, SPC cable, MasterBus cable, MasterBus Terminator, user's manual

MasterShunt fuses
The robust fuse (500 A/160 V DC, 50 kA short circuit current) is suitable for high short circuit currents from the batteries. Spare fuse available separately, product code 77049000.

DC Distribution fuses
The DC Distribution standardly comes with four ANL fuses: 80, 80, 125 and 160 A, and a spare fuse of 125 A.

Replacement fuses and other amps:

product code	
77049040	40 A
77049050	50 A
7049060	60 A
77049080	80 A
77049100	100 A
77049125	125 A
77049160	160 A
77049175	175 A
77049200	200 A
77049250	250 A
77049300	300 A
77049400	400 A

Practical:

MasterBus accessories

MasterBus communication cable
Suitable for data traffic and powering peripheral equipment, this is the only cable you need for your MasterBus network. MasterBus compatible products come standard with two ports, while other equipment requires an interface. A DIY-kit is optional.

Available cable lengths:
- 0.2 m, product code 77040020
- 0.5 m, product code 77040050
- 1 m, product code 77040100
- 3 m, product code77040300
- 6 m, product code 77040600

- 10 m, product code 77041000
- 15 m, product code 77041500
- 20 m, product code 77042000
- 25 m, product code 77042500
- 100 m, product code 77045000

MasterBus Terminator,
product code 77040000.

MasterBus DIY-kit, product code 77050000.
Cut your own cables to length and finish, comprising:
- Professional RJ45 crimping tool.
- 50x MasterBus RJ45 connectors.
- 50x green MasterBus RJ45 protection boots.
- 100 m green MasterBus CAT5E UTP cable.

Separately available:
- 25x MasterBus RJ45 connectors, 8-pole, product code 77040010.
- 25x green isolation caps for RJ45 connector, product code 77040015.

The intelligent simplicity of **MasterBus**

MasterBus makes life easier for designers, builders and installers of power systems. This brilliantly simple platform for communication and connections ensures that all components 'speak' the same language. One communication protocol with high-speed CANbus technology.

The optimum integration of power conversion and power storage also includes digital switching. Control your system centrally or switch on a bunk light locally, all via MasterBus. The one-bus approach even allows control from your home. MasterBus helps realise an electrical system that combines remarkably easy installation with ultimate reliability; no matter how large or complex your system.

Fewer cables

It all starts with MasterBus, a brilliantly simple one cable system for all communication between the various products. With MasterBus you need far fewer cables and all your system components will 'speak' the same language. Reap the benefits of a single communication protocol with high-speed CANbus technology that is fast, reliable, flexible and expandable.

Easy maintenance

Replacing a component can often lead to complex configuration problems. Not with Mastervolt: The MasterBus network 'recognises' any replacement directly and automatically asks whether you want to keep the same or change your configuration. You stay well informed and with everything under control.

For more information see www.mastervolt.com/masterbus

The **basic** components of
a **MasterBus** network

MasterShunt 500

This ultra-modern battery monitor provides detailed
information on the status of your batteries, including voltage,
current, remaining time and used capacity in percentages.
With an intelligent connection system, the MasterShunt is easily
connected to the DC distribution. The integrated system clock
combined with command-based events custom automates your
 system to your needs. Example of system automation: The generator
should start automatically when the batteries are almost depleted.
The MasterShunt also provides a robust built-in main fuse that can
safely interrupt short-circuit currents of 50,000 Amps.

Product code	77020100
Dimensions, hxwxd	150x150x65 mm / 5.9x5.9x2.5 inch
Weight	1 kg / 2.2 lbs
Battery types	gel, AGM, wet, Lithium Ion, spiral
Battery voltage	12, 24 or 48 V DC
Current	300 A continuous / 500 A for 5 minutes
MasterBus powering	yes
Main fuse	500 A T-fuse (300 A continuous at 40 °C)
System functionality	alarm, timers, auto start/stop for the generator
Programmable alarms	warning low voltage, warning low state of charge, high voltage
Protection degree	IP21
Delivered with	MasterShunt, temperature sensor, MasterBus Terminator, MasterBus cable, isolation cover for DC connections

DC Distribution 500

The DC Distribution 500 is the smallest distribution model
available. It connects up to four DC devices to the DC groups,
such as a battery charger, inverter, alternators and solar panels.
An included plug & play cable makes connection to the MasterBus
network a breeze. The MasterView panel gives all fuses logical names
(referring, for instance, to the connected equipment) to ensure you
receive understandable error notifications (f.ex. charger fuse defect).

Product code	77020200
Dimensions, hxwxd	150x216x65 mm / 5.9x7.9x2.5 inch
Weight	1,2 kg / 2.6 lbs
Battery voltage	12, 24 of 48 V DC
Current	300 A continuous / 500 A for 5 minutes
MasterBus powering	no
Standard fuses	80, 80, 125, 160 A - ANL-type (deviating values can be ordered separately)
Spare fuse	125 A ANL-type
Alarm	fuse monitoring
Protection degree	IP21
Delivered with	5 fuses, hex tool, MasterBus Terminator, MasterBus cable, isolation cover for DC connections

CZONE™ networked control and monitoring system

The CZone™ digital control & monitoring network simplifies installation of electrical systems through the replacement of complicated, cumbersome wiring to switch and fuse panels, with state of the art, robust interfaces and light NMEA2000 network cable. It also provides a sophisticated solution through the automation of complicated control and monitoring issues associated with today's onboard systems.

Installation

Builders recognize an immediate benefit with reductions in cable usage, harness weights and installation times. The CZone™ system also integrates many stand alone components into one intuitive system. Wiring is dramatically simplified, because the CZone™ system is designed to remove complex switching clusters and wiring runs. Modules can easily be added into the system to best suit the OEM and end-users' needs.

Configuration

We provide the tools to help you determine the modules needed based on your specific requirements. Then, simply program with the CZone™ intuitive configuration tool.

Integration

The CZone™ system is NMEA2000 compliant and uses the standard Micro cables and connectors. This also allows a single network backbone to be installed for multiple systems (CZone™ and other NMEA2000 devices). Additionally, the CZone™ system can share certain monitoring functions with other NMEA2000 compliant screens.
The CZone MasterBus Bridge Interface expands the level of systems integration to a whole new level. No other company can bring digital switching, power electronics and marine navigation systems together into one interactive, seamless system.

Versatility & security

The CZone™ system, designed for 9-32 V systems, features built-in timers, dimmers (including support for halogen lighting), alarms, voltage reducers and load shedding. With safety in mind, the CZone™ system features a manual bypass. Our No-Single-Failure-Point technology ensures a plug & play system that is designed to handle mishaps. If a module is damaged, the system will automatically program the replacement module, when it is plugged in. This means any module can be replaced without using high tech service people. Our security features allow custom configurations that can be locked.

LCD displays

The CZone™ displays are the interface between the CZone™ and MasterBus networks and the user. They offer full control of circuits as well as the ability to view important onboard system information, such as tank levels and power levels (for both AC and DC supplies), they also provide audible and visual alarms with systems diagnostics. The displays are extremely intuitive to use with simple controls and a menu structure that is easy to follow. The 'modes of operation' feature allows the control of multiple circuits with a single push of a button. For instance, 'night running' mode turns pre-selected lights on to dim levels. These modes are all user configurable. The CZone™ displays can be used to set the CZone™ system parameters for initial installation and future system maintenance (DI only).

Screen size	3.5" transflective QVGA
Protection	IpX7 water ingress
Dimensions, wxhxd	105x165x62 mm
	4.13"x6.5"x2.44"
Power consumption	at 12 V: 180mA
	(standby 130mA)
Rotary knob for easy menu navigation	

3.5" Display Interface:
• Display Interface, w/power cable, black bezel, **product code 80-911-0001-00**.
• Display Interface, w/power cable, grey bezel, **product code 80-911-0002-00**.
• Display Interface only, black, **product code 80-911-0003-00**.
• Display Interface only, grey, **product code 80-911-0004-00**.

Product code	80-911-0064-00
Screen size	8.4" (SVGA)
IP Level	IP64
Dimensions, wxhxd	234x184x42 mm
	9.21"x7.24"x1.65"
Brightness (cd/m²)	450
Input voltage	12 V DC
Power Consumption	20 W

8" Touch screen.

Product code	80-911-0065-00
Screen size	10.4" (SVGA)
IP Level	IP64
Dimensions, wxhxd	276x227x50.7 mm
	10.87"x8.93"x1.99"
Brightness (cd/m²)	400
Input voltage	12 V DC
Power consumption	25 W

10" Touch screen.

Power Control
• Turn circuits on and off including timer and light dimming control.
• Set modes of operation.

Monitoring
DC power meter
• Displays voltages of multiple battery banks, includes low and high voltage alarms.
• Displays charge and discharge (amps) of multiple battery banks.
• Displays battery capacity in ampere hours and % charge/discharge, includes low ampere hour alarm.
• Logging of battery minimum and maximum voltage levels.
• Logging of minimum battery capacity level.

AC power meter
• Displays multiple line voltages (230 and 120 V), includes high and low voltage alarm.
• Displays AC line frequencies, includes high and low frequency alarm and AC power consumption in kW.
• Logging of minimum and maximum voltage and frequency levels.
• Logging of maximum AC current.

Tank levels
• View tank level information for multiple tanks and fluid types.

Data
• Displays standard NMEA2000 information.
• Displays temperature and pressure values.

Alarms/diagnostics
• Logging of circuit run time and on cycles.
• CZone™ network status reporting.
• Presents alarms for on board faults in audible and visual form (bilge pump running, smoke alarm).

LCD displays

The CZone™ displays are designed with both the manufacturer and end-user in mind. The easy to use display screens put the control of all components directly at your fingertips. Multiple display interfaces can be used in the same system. The scroll and click interface is simple to use in the roughest of seas or bumpiest of roads.

Monitoring

Allows user to easily monitor AC and DC power, tanks, data, alarms, and circuit status. Presents data in analog and digital form.

Control

Breaks down the circuits into easy to identify groups for quick control, i.e. to turn on fresh water pump open 'pumps' group. User can open pumps group and select fresh water pump. This screen also allows the user to monitor the status of the circuit i.e. on, off, fault and current draw.

Settings

Allows OEM or technician access to the configuration (via password) of a system. No need for computer to set or change configuration settings such as circuit labels, circuit breaker sizes, etc. (DI only).

Modes

Key to the ease of operation. With one key press the user can turn on a group of circuits, without having to scroll, search for, and turn on the individual circuits that they need for operation of their vessel/vehicle. When leaving, simply press 'systems off' to turn off all non-essential circuits. Entertainment mode allows preset activation of salon lights, music etc... All functions can be controlled remotely.

CZone™ Integration Partners

Simrad and B&G have added CZone™ control and monitoring to their award winning fully networked chartplotter/multifunction displays. View CZone™ monitoring data, tank levels battery voltage, alongside radar, fish finder, video and chartplotter information or navigate to the CZone™ page to operate any circuit from the intuitive control page.

SIMRAD

B&G

AC Interfaces

AC Output Interface (ACOI)

Searching for a simplified way to network, monitor and control onboard AC circuits? The AC Output Interface does it all and provides circuit protection for all onboard AC devices. It is easy-to-install, configure and operate the digital control system with pre-wired components for quick connections. But you still have a customizable solution to suit unique installation and application needs, including 'night running' or 'at anchor' as well as control at multiple locations. It has eight outputs (up to 50 A each), supports multiple pole designs and two separate buss feeds. To make it easy, status LEDs and manual bypass are located right at the enclosure.

Product code:
80-911-0069-00.

• 8 Outputs at up to 50 amps each	• Provides circuit protection and control
• Circuit status and run current displayed for each circuit	• Status LED's at enclosure
• Customizable to suit installation requirements	• Manual bypass at enclosure
• Pre-wired for quick connection	• Provision for MCB/RCD's
• Staggered start up of loads	• Timers
• 110 V, 240 V, 110/220 V	• 50 or 60 Hertz
• Supports multiple pole designs, i.e. double, triple, four pole	• IPX5 enclosure

• Utilizes standard DIN rail mounted components for circuit protection and control
• Can support two separate buss feeds i.e. 2 load groups in one box
• Delay before circuits come on to allow generators to come up to speed
• Dimensions, hxwxd: 295x458x130 mm / 11.61"x18"x5.1"
  (enclosure dimensions may change depending on installation requirements)

AC Mains Interface (ACMI)

A sophisticated source selector or transfer switch, the AC Mains Interface enables the user to specify which AC power source is actively supplying power to the ship (generator, inverter, shore power). It was developed for use with the CZone™ digital control system, but may also be used a stand-alone device. The ACMI can be programmed to automatically change the supply source when the current rating is exceeded, and includes a manual bypass and user-friendly display screen that ensures easy current, voltage, frequency, and power monitoring. Other features include six monitored, over-current protected main power inputs of up to 100 A each, as well as two outputs, which enables two separate load groups and a parallel option for use with a single source. To simplify installation, the ACMI comes pre-wired for easy installation.

Product code:
80-911-0068-00.

• 6 Source inputs up to 100 A (eg. 2x shore power, 2x generator)	• Auto changeover
• Monitoring of channel status (on/off/fault)	• Provision for RCD's
• Provides circuit protection and control	• Load shedding
• Manual override at enclosure and via remote panel	• Status LED's at enclosure
• Customizable to suit installation requirements	• Pre-wired for quick connection
• Supports multiple pole designs, i.e. double, triple, four pole	• Timer controls
• 110 V, 240 V, 110/220 V	• 50 or 60 Hertz

• IPX5 enclosure
• Utilizes standard DIN rail mounted components for circuit protection and control
• Physical and software lockouts between source controls (prevents two sources from becoming connected)
• Reverse polarity and bad power supply alarms including auto disconnect and lockouts
• Current, voltage, frequency and power monitoring incorporated (six channels)
• 2 Outputs (load groups), allows for two separate load groups with parallel option for use with single source
• Dimensions, hxwxd: 403x630x130 mm / 15.8"x24.8"x5.1"
  (enclosure dimensions may change depending on installation requirements)

CZone Interfaces

Switch Control Interface

The Switch Control Interface (SCI) provides an interface between the CZone™ network and traditional mechanical switches that manufacturers and users are familiar with. The SCI simplifies your wiring, supports your existing choice of switches, protects against failures and allows for expanding installation options.

Product code	description
80-911-0011-00	Switch Control Interface w/seal
80-911-0012-00	Switch Control Interface only

- Single switch position can control multiple OI channels
- Attaches to switch panels via custom SCI cable
- Multiple SCI switches can control single OI channel
- Output for backlighting of switch labels (dimmable)
- Outputs systems on and function/ fault codes to systems on LED of switches (dimmable)
- Dimensions, wxhxd: 156x100x42 mm – 6-3/32"x3-29/32"x1-5/8"

• IPX5 water ingress protection	• Programmable switch types
• 8 Inputs per module (16 individual controls)	• Sequential button press functionality

Signal Interface

The Signal Interface (SI) connects the CZone™ system to your external sensors, alarms and switching devices. The SI allows intelligent, automated operation of circuits depending on the state of the input.

Product code	description
80-911-0013-00	Signal Interface w/seals, connector
80-911-0014-00	Signal Interface only

- Accepts inputs from traditional switch types being used to control outputs
- Accepts inputs from switches to trigger alarm i.e. high water float switch
- Accepts inputs from industry standard tank senders (0-5V, 10-180 Ohm, 240-33 Ohm)
- Accepts inputs from general voltaic or resistive signals can be used for controlling outputs or to display a physical position i.e. show a hatch is partially open
- LED status indicators for each input
- Dimensions, wxhxd: 156x100x42 mm – 6-3/32"x3-29/32"x1-5/8"

• IPX5 water ingress protection	• Outputs standard NMEA2000 sentences
• Resistive input range 0–1000 Ohms	• Voltage sensing input range 0–34 V DC

Meter Interface

The Meter Interface (MI) accepts inputs from external AC and DC power metering sensors such as: AC and DC voltage and amps, AC kWatts, and DC battery capacity in amp hours and % remaining. All with user definable high and low alarms.

Product code	description
80-911-0005-00	Meter Interface, w/seal & plug
80-911-0006-00	Meter Interface only

Note: High and low alarm levels can be set for all inputs.

AC	
• 3 x AC voltage inputs (multi voltage)	• 2 x AC current inputs
• Calculates true RMS power	
DC	
• 3 x DC voltage inputs (multi voltage)	• 2 x DC current inputs
• Calculates battery capacity as ampere hours and percentage charge remaining	
• Resolution for current metering down to 0.1 A	
GENERAL	
• Dimensions, wxhxd: 156x100x42 mm – 6-3/32"x3-29/32"x1-5/8"	
• IPX5 water ingress protection	
• Outputs standard NMEA2000 power monitoring sentences	

Output Interface

The Output Interface (OI) provides an intelligent replacement for traditional circuit breaker and fuse panels. It has 6x high power, robust output channels which provide the power supply, control and fusing for a circuit as well as integrating many other built in features such as timers and dimmers. Connection to the unit is simple: a large 6 way plug allows connections to cables of up to 16 mm² (6AWG) in size, or multiple smaller conductors. No need for specialized crimp terminals and expensive crimp tools to be carried for terminations to CZone™, just a blade screwdriver. A protective flexible boot offers protection to the connections from harsh environment conditions.

- 4 levels of backup fusing including manual override (as required by ABYC)
- Multiple channels can be bridged together to offer higher current switching
- Power consumption 12 V: 85 mA (standby 60 mA)
- Dimensions, wxhxd: 200x128x45 mm – 7-29/32"x5"x1-3/4"
- Small, non metallic, easy to install case
- IPX5 water ingress protection
- 6 x 20 amps circuits
- Programmable software 'fuse' sizes

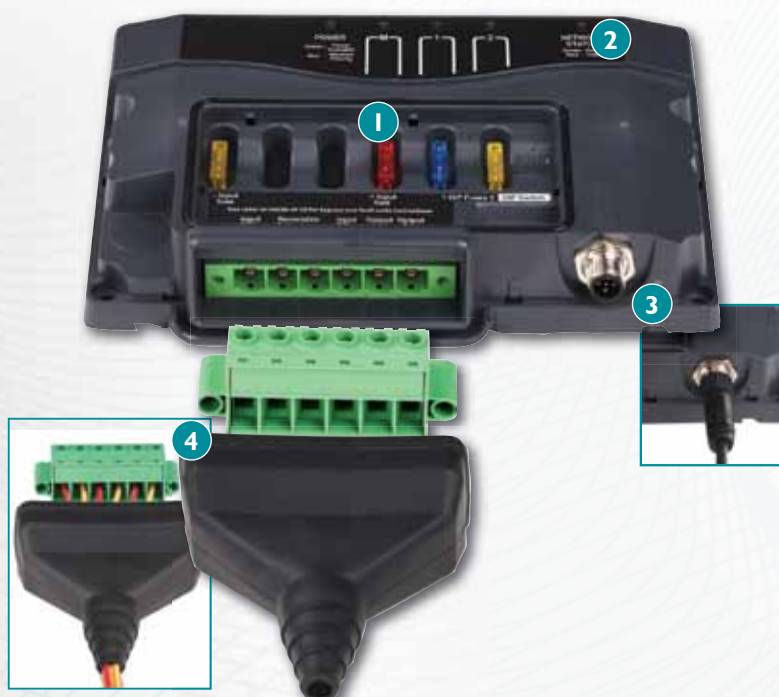| Product code	description
80-911-0009-00	Output Interface w/connector, boot
80-911-0010-00	Output Interface only

Motor Output Interface

The Motor Output Interface (MOI) has an output pair for controlling DC motors which require a reversal of polarity to change the direction of their mechanical operation. For example, a DC motor for an electric window mechanism will move the window up or down depending on the polarity of the feed to the motor. The MOI also incorporates two standard output channels such as is found on the OI.

- Single motor control and two normal channels per unit, 20 A per output
- Built-in circuit protection
- IPX5 water ingress protection
- Dimensions, wxhxd: 200x128x45 mm – 7-29/32"x5"x1-3/4"

Product code	description
80-911-0007-00	Motor Output Interface w/connector, boot
80-911-0008-00	Motor Output Interface only

1. Fuses for emergency circuit bypass
2. Network status indicator
3. NMEA2000 connector
4. Connector & protective boot

Digital Control **accessories**

Ext. cable
NMEA2000 network.

Product code	
80-911-0026-00	.5 m / 1.6 ft
80-911-0027-00	2 m / 6.5 ft
80-911-0024-00	5 m / 16 ft
80-911-0025-00	10 m / 32 ft

Single tee connector
NMEA2000 network.
Product code: 80-911-0029-00.

2 Way tee connector
NMEA2000 network.
Product code: 80-911-0047-00

4 Way tee connector
NMEA2000 network.
Product code: 80-911-0048-00.

Banking caps
NMEA2000 network.

Male cap
Product code: 80-911-0050-00.

Female cap
Product code: 80-911-0051-00.

Power cable for Display Interface
• 2 Pin, 2 mtr / 6.5 ft.
Product code: 80-911-0032-00.

Single tee connector with 0.5 mtr / 19.5" extension cable
NMEA2000 network.
Product code: 80-911-0049-00.

Power cable
NMEA2000 network.
• 1 mtr / 3.2 ft
Product code: 80-911-0028-00.

Terminating resistors
NMEA2000 network.

Product code	
80-911-0030-00	female
80-911-0031-00	male

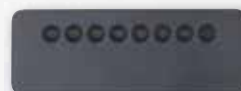**90° Elbow connector**
NMEA2000 network.
Product code: 80-911-0046-00.

Cable glands

For SCI silicon.
Product code: 80-911-0035-00.

SI, blk silicon.
Product code: 80-911-0036-00.

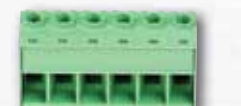MI, blk silicon.
Product code: 80-911-0033-00.

Terminal blocks

SI/MI, 8-way.
Product code: 80-911-0043-00.

OI/MOI, 6-way.
Product code: 80-911-0041-00.

For MI, 6-way.
Product code: 80-911-0042-00.

Seal boot
For OI/MOI.
• 6-wire, blk silicon
Product code: 80-911-0034-00.

Through bulkhead adaptor
NMEA2000 network.
Product code: 80-911-0052-00.

Female field serviceable connector
NMEA2000 network.
Product code: 80-911-0053-00.

Male field serviceable connector
NMEA2000 network.
Product code: 80-911-0054-00.

Hole plugs

Product code	
80-911-0016-00	3.2 mm
for MI and SI cable glands	
80-911-0017-00	5 mm
for SCI cable glands	

DC current shunt
450A/50mV shunt supplied with 80-600-0021-00.
Dim.: 83x45x44 mm / 3.25"x2.8"x2.75".
Product code: LB-450-50.

CZone™ wireless remote kit

Simple to set up, wireless remote control. Buttons are configurable for momentary on or latching control of circuits.

• 80 m (250 ft) operating range.
• Rolling code.

Product code: 80-911-0045-00.

USB CAN adapter

Connects PC to CZone™ network for configuration and system set up.

Product code: 80-911-0044-00.

Cable assembly

SCI to suit switches above:

Product code	
80-911-0018-00	.5 meter
80-911-0019-00	1 meter
80-911-0020-00	2 meter
80-911-0021-00	3 meter
80-911-0022-00	4 meter
80-911-0023-00	5 meter

AC transducer

Includes 3 voltage transformers for up to 3 voltage inputs.

Dim.: 69x140x50 mm / .75"x5.5"x2".

Product code: ac-vsen-4.

Push buttons

For use with CZone™ systems only.

• Momentary and latched actuation options available.
• Blue and red circuit status indication LED options.
• 19 mm mounting hole.
• IP67 environmental protection.
• Stainless steel components.

Product code		
80-911-0060-00	momentary (ON)OFF	red LED
80-911-0063-00	momentary ON/OFF	red LED
80-911-0062-00	momentary (ON)OFF	blue LED
80-911-0061-00	momentary ON/OFF	blue LED

Custom switches

Red or blue systems in operation and backlighting LED's.

Product code		
80-911-0037-00	ON/OFF	red LED
80-911-0038-00	mom ON/OFF	red LED
80-911-0039-00	ON/OFF/ON	red LED
80-911-0040-00	mom ON/OFF/mom ON	red LED
80-911-0066-00	mom ON/OFF	blue LED
80-911-0071-00	mom ON/OFF/mom ON	blue LED

Current transformer

Max. current 150 A AC.
One CT-10-3 current transformer is supplied with ACSM. If a twin line system is in use, a second CT must be ordered. Supplied with 80-600-0023-00.

Dim.: 37.5x39.2x13.7 mm / 1.5"x1.55"x.55".
Hole size: 12 mm / 0.5".
Product code: CT-10-3.

Heavy-duty current transformer

Max. current 150 A AC.
CT-HD is available for systems with large mains cables, too large for CT-10-3 (order separately).

Dim.: Ø 47 x 10.5 mm / 1.85 x 0.4".
Hole size: 32 mm / 1.25".
Product code: ct-hd.

CZone MasterBus Bridge Interface

The CZone MasterBus Bridge Interface physically connects the MasterBus and CZone™ networks, allowing you to pick and choose the best products for your application. The two networks will communicate and act as one, providing seamless control and monitoring of devices on both networks, from either MasterBus or CZone™ displays.

Product code: 80-911-0072-00.

CZone Network Bridge Interface

For isolating sections of a NMEA2000 network to decrease standby current draw. Isolation when bridging between two CAN networks, (eg connecting CZone™ to Simrad Simnet). For expansion of the NMEA2000 network when the maximum node limit (node = any device connected to the NMEA2000 network) for the network has been reached. Once fitted, a further 40 nodes can be added.
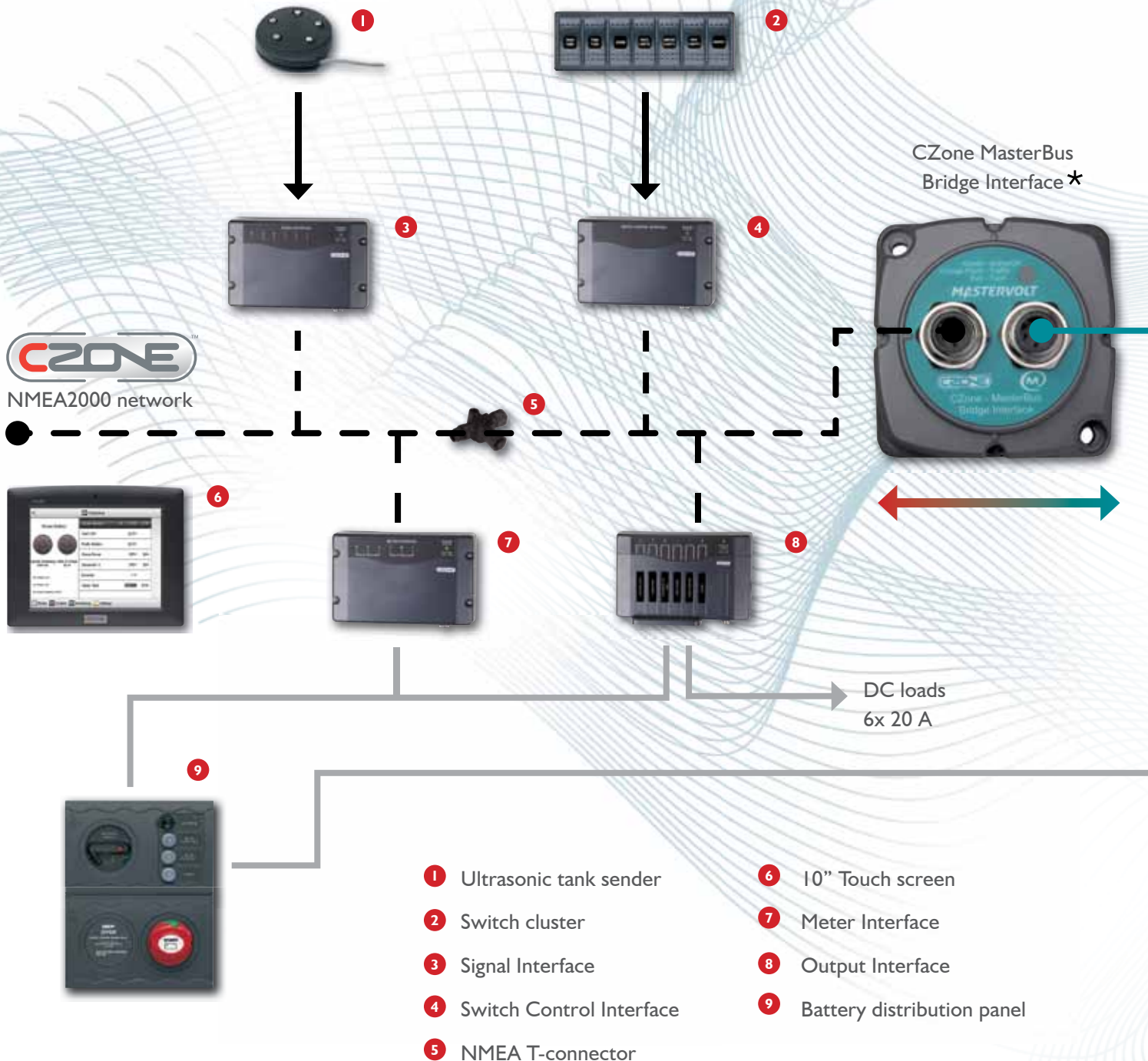
Product code: 80-911-0057-00.

Surge protection module

Protect your electronics from becoming damaged by harmful high voltage spikes. When fitted to the battery supply these modules look for sudden increases in voltage then switch into protection mode to absorb and suppress the high energy spike.

Product code	
80-707-00004-00	12 V DC
80-707-00005-00	24 V DC

Fully **integrated** CZONE™

**CZone MasterBus
Bridge Interface** *

NMEA2000 network

DC loads
6x 20 A

1	Ultrasonic tank sender	6	10" Touch screen
2	Switch cluster	7	Meter Interface
3	Signal Interface	8	Output Interface
4	Switch Control Interface	9	Battery distribution panel
5	NMEA T-connector		

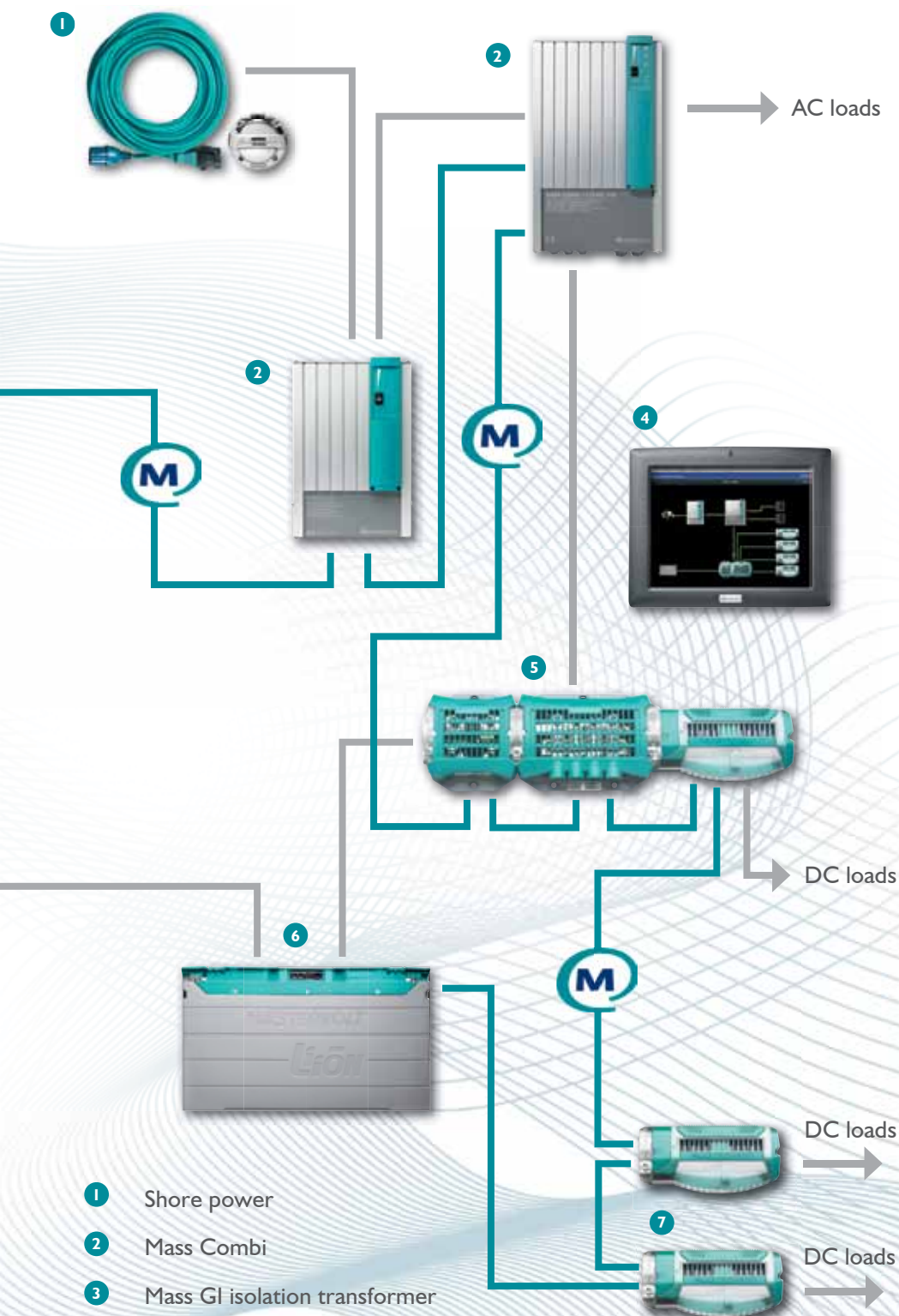## * CZone MasterBus Bridge Interface

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Master**Bus** system

→ AC loads

→ DC loads

→ DC loads

→ DC loads

№	
1	Shore power
2	Mass Combi
3	Mass GI isolation transformer
4	MasterView System
5	MasterShunt, DC Distribution, Digital DC 10x10
6	Lithium Ion 12 V (service battery)
7	Digital DC 10x10

Advantages of one system:

- Fewer cables.

- Less weight.

- Installation time savings.

- Increased flexibility in terms of design changes.

- 'Super Yacht' power and load management capabilities.

- Remotely accessible.

- Easy to maintain.

- Integrated solution.

- Single button 'mode' selection.

- Redundant and safe.

- Global service network.

For more information on MasterBus, see
www.mastervolt.com

For more information on CZone™, see
www.bepmarine.com

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